Evalam By Pujol

DATA SHEET

EVALAM VISUAL	
Haze (%) 1 Layer	0.05
Haze (%) 3 Layers	0.1
Adhesion Strength (Ncm)	>140
Crosslink (%)	87
Sound Insulation	36
Ligth Transmittance (%) 1 Layer	91
Ligth Transmittance (%) 3 Layers	88,5
Gel Content (%)	>87
Hardness (Shore A)	77
Tensile Strength (Mpa)	11
UV Filtering (%) 380nm (0.38mm)	100
Temperature UNE-EN 12543-4:2011	SATISFACTORY
Humidity UNE-EN 12543-4:2011	SATISFACTORY
Radiation test UNE-EN 12543-4:2011	SATISFACTORY
Boiling Test 100ºC 2h	SATISFACTORY
Resistance UNE-EN 356:2011	P1A:55.2

Resistance UNE-EN 12600-2011:	1B1 4T+4T.2 1B1 6+6.2
UNE-EN 12543 Includes temperature, UV Radiation and Hunmidity, Test	

PVB	
Haze (%) 1 Layer	0.13
Adhesion Strength (Ncm)	60
Crosslink (%)	-
Sound Insulation (dB)	34
Ligth Transmittance (%) 1 Layer	89
UV Filtering	80

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ilac-MRA ENAC ENSAYOS Nº 4 / LE024

REPORT No. 14_06517-5-a

COSTUMER	HORNOS INDUSTRIALES PUJOL, S.A.
APPLICANT	JORGE PUJOL
ADDRESS	C/ del Pla, nº 108-110 08980 Sant Feliu de Llobregat (Barcelona)
PURPOSE	DETERMINATION OF LUMINOUS AND SOLAR CHARACTERISTICS IN ACCORDANCE WITH UNE-EN 410:2011
SAMPLE TESTED	LAMINATED GLASS REF. «EVALAM VISUAL»
DATE OF RECEIPT	26.02.2013
TEST DATES	27.02.2013
DATE ISSUED	10.07.2014

tecnalia Inspiring Business

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CHARACTERISTICS OF THE SAMPLES

On 26th February 2013, TECNALIA received three test specimens of laminated glass with 0.76 mm EVA interlayer of internal reference 900031E/A measuring (100 x 100 x 5+5) mm and referred to as:

«EVALAM VISUAL»

TEST REQUESTED

The test requested is the **determination of luminous and solar characteristics** in accordance with UNE-EN 410:2011 standard *«Glass in building. Determination of luminous and solar characteristics of glazing»*

TEST CARRIED OUT

The determination of the transmittance and reflectance between 280 and 2,500 nm was carried out using a Perkin-Elmer Spectrometer Lambda 900 UV/VIS/NIR spectrophotometer with an integrating sphere of 150 mm in diameter, quartz standard and white standard.

The method used has the following characteristics:

- Wavelength interval: 5 nm
- Scan speed: 284.6 nm/min
- Slit UV/VIS:1
- Detector gain NIR:4

Three transmittance measurements and three reflectance measurements of the test specimen were taken.

From the transmittance and reflectance measurements, the **solar direct transmittance** and **reflectance**, **light transmittance** and **reflectance**, **ultraviolet transmittance** and **solar factor** of the test specimen were calculated in accordance with standard UNE-EN 410:2011.

The corrected emissivity considered on the external surface is that of a surface of base soda lime silicate glass which in accordance with standard UNE-EN 673:2011 is 0.837.

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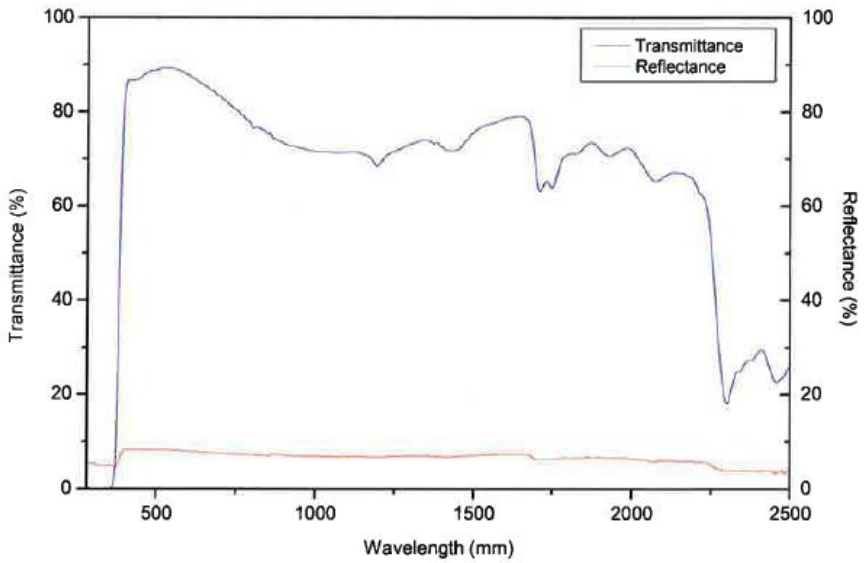
RESULTS

The results of the luminous and solar characterization of the test specimen referenced as **«EVALAM VISUAL»** are:

Light transmittance (%)	**88.6 ± 0.2**
Light reflectance (%)	**8.2 ± 0.1**
Ultraviolet transmittance (%)	**4.6 ± 0.1**
Solar direct transmittance (%)	**76.6 ± 0.2**
Solar direct reflectance (%)	**7.4 ± 0.1**
Solar factor (Expressed per unit)	**0.80 ± 0.01**

The following graph shows the data of the spectral transmittance and the reflectance of the test specimen.



DECLARATION OF UNCERTAINTY

The expanded uncertainty of measurement has been obtained by multiplying the standard uncertainty by the coverage factor k=2 which, for a normal distribution, corresponds to a coverage probability of approximately 95%.